Electronic Design Service

SSR-CU Solid State Relay Control Unit

User Guide

Revision History

The Table below displays the revision history for the chapters in this User Guide

Date	Version	Change Made
July 23, 2022	1.0	Original release

Contact Us

For the most up-to-date information about the Electronic Design Service products, go to the Electronic Design Service website at www.eldesignservice.com.

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Contents

About SSR-CU Solid State Relay Control Unit

The SSR-CU provides possibility to control devices which use a standard electrical outlet. Low voltage microcontroller or other low voltage equipment can be used as a control device. The SSR-CU uses high-power solid-state relay and provides fully galvanically isolation of low voltage control signal from high voltage.

The SSR-CU can be used to control power going to a device such as Sump Pump, Heaters or light for example. Any low voltage devices, Single Board Computer or microcontroller system with general purpose output interface can be used with SSR-CU.

The SSR-CU is designed to provide safely control an outlet device that operates at 24 – 280Vrms. The SSR-CU provides connectivity between single input (from the included power cable) to two outputs: one always on, and one normally off.

The control signal is compatible with any devices which can provide 3V – 32VDC and optically isolated from power.

There are two types of SSR-CU the SSR-CU_12A and SSR-CU_6A.

First one is for 12A maximum load and second one is for 6A maximum load.

Both devices provide 239A peak maximum surge current for the 1 Cycle period.

Also, there are two LEDs for Power Input (Power) and relay on (Switch On) indication on the front panel.

The UPD2425 (zero voltage Turn-On) solid state relay is used in both SSR-CU devices. The UPD2425 is rated for 25A.

Figure 1 SSR-CU_12A

Figure 2 SSR-CU_6A

SSR-CU_12A Specifications

Output Specifications:

Operating Temperature: 32°F – 90°F (0° – 32°C)

Operating Humidity: 0 – 85%, non-condensing

Maximum Steady State Current: 12A

Operating Voltage (47 – 440Hz): 24 – 280Vrms

Transient Overvoltage: 600V peak

Maximum 1 Cycle Surge Current (50/60Hz): 239A peak

Maximum On-State Voltage Drop: 1.4Vrms

Input Specifications:

Control Voltage: 3 – 32VDC

Minimum Turn on Voltage: 3VDC

Minimum Turn of Voltage: 1VDC

Input circuit active current limiter: 10mA maximum

Minimum Turn on Current: 3mA

General Specifications:

UL Certificate: In Progress

SSR-CU_6A Specifications

Output Specifications:

Operating Temperature: 32°F – 90°F (0° – 32°C)

Operating Humidity: 0 – 85%, non-condensing

Maximum Steady State Current: 6A

Operating Voltage (47 – 440Hz): 24 – 280Vrms

Transient Overvoltage: 600V peak

Maximum 1 Cycle Surge Current (50/60Hz): 239A peak

Maximum On-State Voltage Drop: 1.4Vrms

Input Specifications:

Control Voltage: 3 – 32VDC

Minimum Turn On Voltage: 3VDC

Minimum Turn Of Voltage: 1VDC

Input circuit active current limiter: 10mA maximum

Minimum Turn On Current: 3mA

General Specifications:

UL Certificate: In Progress

Inside Box

1. SSR-CU device
2. Power cable

Warranty

When used and maintained in normal use and in accordance with the Installation and Operating Instructions, your SSR-CU product is warranted against original defects in material and workmanship for a full one year from date of purchase (the “Warranty Period”). During the warranty period, SSR-CU will be repaired or replaced at no cost to you, to correct such defects in products found upon examination by EDS to be defective in materials or workmanship.

This warranty does not cover use of the product in improper installation and/or improper maintenance of the product, damage due to misuse, owner’s acts or omissions, use outside the country in which the product was initially purchased. This warranty does not cover pick up, delivery, transportation or house calls. However, if you mail your product to EDS for warranty service, cost of shipping will be paid one way. This warranty does not cover products purchased from a party that is not an authorized retailer, dealer, or distributor of EDS products

Troubleshooting

No Power Indication (Power LED in front panel) when device is connected to power outlet:

a) Check the input fuse and replace it if necessary. *Note: if fuse is failed after replacement, device shall be repaired in facility.*

No Relay On indication (Switch On LED in front panel) when control signal is presented:

a) Check parameter of control signal. It shall be as minimum 3VDC and provides 3mA current as minimum. If control signal meets criteria, the device shall be repaired in facility.

Support

Send us an email to: support@eldesignservice.com or submit a request through our webpage: https://eldesignservice.com/contacts-html/

